

Remarks

Claims 1-17 were present.

Claims 13 and 15 are cancelled to further prosecution pending filing of a divisional application.

Claims 2 and 8 are original.

Claims 1, 3-7, 9-12, 14, 16 and 17 are as previously presented.

The application now contains claims 1-12, 14, 16 and 17.

No new matter is added.

Claim 10 is rejected under 35 USC 103(a) as obvious over Rohringer WO 98/42685, which discloses an unsymmetrical structure similar to formula Ib of the instant application.

On page 6 line 8 of the Action the Examiner states, in regard to claim 10 that " In view of Applicants' amendment, this rejection is deemed as obviated." As there are no other rejections to claim 10 listed, Applicants assume that the claim is allowable even though the cover sheet does not list it as such.

Claims 1-9, 11, 12, 14, 16 and 17 are rejected under 35 USC 103(a) as obvious over Rohringer WO 98/42685, Gold US Pat 3,532,692, Hausermann US Pat 3,272,805 and Thompson WO 96/00220. WO 98/42685 generically discloses unsymmetrical brighteners and the other references disclose symmetrical brighteners. In the Examiner's view it would be obvious to combine asymmetrical brighteners with symmetrical brighteners to arrive at the instant invention. The Examiner also dismisses the data from Table 2 of the instant invention as it relates to water solubility and not optical brightening.

Applicants respectfully traverse these rejections.

With regards to the water solubility data in Table 2 of the instant application, Applicants respectfully note that throughout the application, and in particular on page 1, paragraphs 1 and 3, it is stated that the instant mixtures of fluorescent whitening agents are particularly useful in paper applications and that the mixtures form stable liquid formulations. As the processes for producing and treating paper are performed in water, water solubility is a valuable asset and desirable characteristic of the instant invention.

Applicants therefore respectfully disagree with the dismissal of the water solubility data as not related to optical brightening, as the end result, the brightness of paper, is directly impacted by this solubility.

Applicants also hold to their previous arguments that no teaching exists directing one to make the present combination of optical brighteners.

However, rather than repeating previous arguments related to this point, Applicants herein submit a Declaration under 132 presenting data that clearly demonstrates the superior whitening effect of the mixture of the instant invention over the individual symmetrical components. The data also counter the assumption that symmetrically and asymmetrically substituted derivatives, or combinations of such similar compounds, are necessarily equivalent in their properties as taught by Rohringer WO98/42685 as related by the Examiner, bottom of page 5 and top of page 6 of the Action,

Rohringer teaches the equivalency of the exemplified compounds (symmetric) of those generically claimed including where R1 choices on the two triazine rings are different (asymmetric).

Before directly addressing the data of the Declaration, Applicants offer the following introductory remarks.

WO 98/42685 generically discloses unsymmetrical compounds of formula (1b) of the instant invention, although none are actually documented. However, Example 2 of WO 98/42685, Formula (102), corresponds to a commercial product useful for whitening paper, which is symmetrical compound (104c) of the instant invention (see Declaration).

US 3,532,692 discloses a process for the preparation of bistriazinylaminostilbene fluorescent whitening agents (FWA's). Compound no.1 of the Table also corresponds a commercial paper FWA, which is symmetrical compound (101a) of the instant invention (see Declaration).

US Patent 3,272,805 discloses 4,4'-triazinylamino stilbene-2,2'-disulphonic acid derivatives wherein the triazine rings are substituted by aniline residues and by alkoxy alkylamine substituents. These latter substituents are a group of formula $-\text{NH}(\text{CH}_2)_{2-3}-\text{O}-\text{Y}$, in which Y represents an ethyl or methyl group which do not fall within the scope of the instant claims where the closest corresponding substituents are a group of the general formula $-\text{NH}(\text{C}_1-\text{C}_2\text{alkoxy})$ or $-\text{N}(\text{C}_2-\text{C}_3\text{alkyl})(\text{C}_1-\text{C}_2\text{alkoxy})$. Hence, this document cannot be regarded as closest state of the art, particularly in view of the previous 2 citations.

Similarly, WO 96/00220 also cannot be regarded as closest state of the art. In the compounds of Formula (1) of claim 1 of this citation, Y may represent a phenylamino substituent, whilst the residue corresponding to R_1 of the instant invention is the residue $-\text{N}(\text{R})\text{CHR}^1\text{Z}$, in which R represents hydrogen or phenyl (optionally substituted) and R^1 represents hydrogen or $\text{C}_1-\text{C}_4\text{alkyl}$ (optionally substituted) and **Z is an electron-withdrawing group such as $-\text{CN}$ or $-\text{SO}_{2-3}\text{M}$.** However, in compounds of formulae (1a) and (1c) of the instant invention there are **no** similar alkyl groups substituted by either a $-\text{CN}$ or $-\text{SO}_{2-3}\text{M}$.

The experiments described in the Declaration therefore compare:

- A. The mixture of compounds of formulae (101a), (104b) and (104c), obtained according to Example 4 of the instant invention;
- B. The compound no.1 of US 3,532,692 which is symmetrical compound (101a) of the instant invention and
- C. The compound of Example 2 of WO 98/42685, which is symmetrical compound (104c) of the instant invention.

The formulations using A, B and C as FWA's were used to coat paper and the amount of FWA needed to obtain a specific whiteness were determined.

Table 2 of the declaration shows that less FWA is needed when the mixture of the instant invention is used, FWA A, than when either of the symmetrical FWA's B or C is used. It can be safely concluded from the data in the declaration that the present mixtures of FWAs outperform individual symmetrical components of the mixture. These results are very surprising given the teaching of the art discussed above regarding the equivalency of symmetric and asymmetric FWAs.

An unfortunate and unintentional typographical error in the Declaration has been detected. Although the name of Peter Rohringer is spelled correctly in paragraphs number 7 and 8 on the last page of the Declaration, the name is misspelled as "Roohringer" in the first line in page 1. This error was detected just recently. Peter Rohringer resides in Switzerland making it impossible to have a corrected Declaration signed by the date due for response to the Action. If necessary, Applicants will supply a signed corrected Declaration.

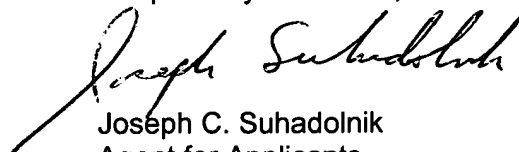
In light of the discussion above and the data of the presently enclosed Declaration, Applicants respectfully aver that all rejections under 35 USC 103(a) been addressed and overcome. No teaching exists in the art directing one to make the present superior combination of optical brighteners.

Applicants therefore respectfully request that the rejections under 103(a) be withdrawn and kindly ask that the Examiner find claims 1-12 and 14, 16 and 17 allowable.

Applicants submit that the present application is now in condition for allowance. In the event that minor amendments will further prosecution, Applicants request that the examiner contact the undersigned representative.

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Respectfully submitted,



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Attachments: Declaration under rule 132